

## CLAIMS

1. A method of operating a plurality of disks having units of storage allocation, comprising:

5 providing a first tier of at least one disk, the first tier storing at least one popular unit;

providing a second tier of at least one disk, the second tier storing at least one unpopular unit;

powering on at least one first tier disk;

10 powering down the second tier;

determining whether a request for a unit requires processing on the first tier or second tier;

accessing the requested unit if the requested unit requires processing on the first tier; and

15 powering on a second tier disk to copy the requested unit from the second tier disk to a first tier disk, if the requested unit is stored on the second tier.

2. The method of claim 1 further comprising:

20 determining if at least one first tier disk has adequate space to process a requested unit;

copying the requested unit from the second tier disk to the first tier disk if at least one first tier disk has adequate space;

creating the requested unit on the first tier; and

25 generating adequate space on the first tier.

3. The method of claim 2 further comprising:  
determining if a first tier unit has become unpopular; and  
transferring the unpopular first tier unit to a second tier disk.

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4. The method of claim 3 further comprising:  
determining if the unpopular first tier unit has been modified; and  
transferring only modified unpopular first tier units to the second

tier.

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5. The method of claim 1 wherein providing the first tier comprises  
assigning a portion of the disks to the first tier.

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6. The method of claim 1 wherein the first tier disks comprise high-  
performance hard drives.

7. The method of claim 1 wherein the second tier disks comprise low-  
power hard drives.

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8. The method of claim 1 wherein the unit comprises at least one  
member selected from a group consisting of: a file, a portion of a file, a file  
system block, a combination of files, and a suitable subdivision of information.

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9. The method of claim 1 wherein the popular unit comprises a unit  
meeting or exceeding a condition limit, and the unpopular unit comprises a unit  
not meeting the condition limit.

10. The method of claim 8 wherein the condition limit is determined  
based on usage factors.

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11. A computer usable medium including a program for operating a plurality of disks having units of storage allocation, comprising:

- 5 computer readable program code for providing a first tier of at least one disk, the first tier storing at least one popular unit;
- computer readable program code for providing a second tier of at least one disk, the second tier storing at least one unpopular unit;
- computer readable program code for powering on at least one first tier disk;
- 10 computer readable program code for powering down the second tier;
- computer readable program code for determining whether a request for a unit requires processing on the first tier or second tier;
- computer readable program code for accessing the requested unit
- 15 if the requested unit requires processing on the first tier; and
- computer readable program code for powering on a second tier disk to copy the requested unit from the second tier disk to a first tier disk, if the requested unit is stored on the second tier.

12. The computer readable program code of claim 11 further comprising:

- 5 computer readable program code for determining if at least one first tier disk has adequate space to process a requested unit;
- computer readable program code for copying the requested unit from the second tier disk to the first tier disk if at least one first tier disk has adequate space;
- 10 computer readable program code for creating the requested unit on the first tier; and
- computer readable program code for generating adequate space on the first tier.

13. The computer readable program code of claim 12 further comprising:

- 15 computer readable program code for determining if a first tier unit has become unpopular; and
- computer readable program code for transferring the unpopular first tier unit to a second tier disk.

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14. The computer readable program code of claim 13 further comprising:

- computer readable program code for determining if the unpopular first tier unit has been modified; and
- 25 computer readable program code for transferring only modified unpopular first tier units to the second tier.

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15. The computer readable program code of claim 11 wherein providing the first tier comprises assigning a portion of the disks to the first tier.

5 16. The computer readable program code of claim 11 wherein the first tier disks comprise high-performance hard drives.

17. The computer readable program code of claim 11 wherein the second tier disks comprise low-power hard drives.

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18. The computer readable program code of claim 11 wherein the unit comprises at least one member selected from a group consisting of: a file, a portion of a file, a file system block, a combination of files, and a suitable subdivision of information.

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19. The computer readable program code of claim 11 wherein the popular unit comprises a unit meeting or exceeding a condition limit, and the unpopular unit comprises a unit not meeting the condition limit.

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20. The computer readable program code of claim 18 wherein the condition limit is determined based on usage factors.

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15 unit from the second tier disk to a first tier disk, if the requested unit is stored on  
the second tier.